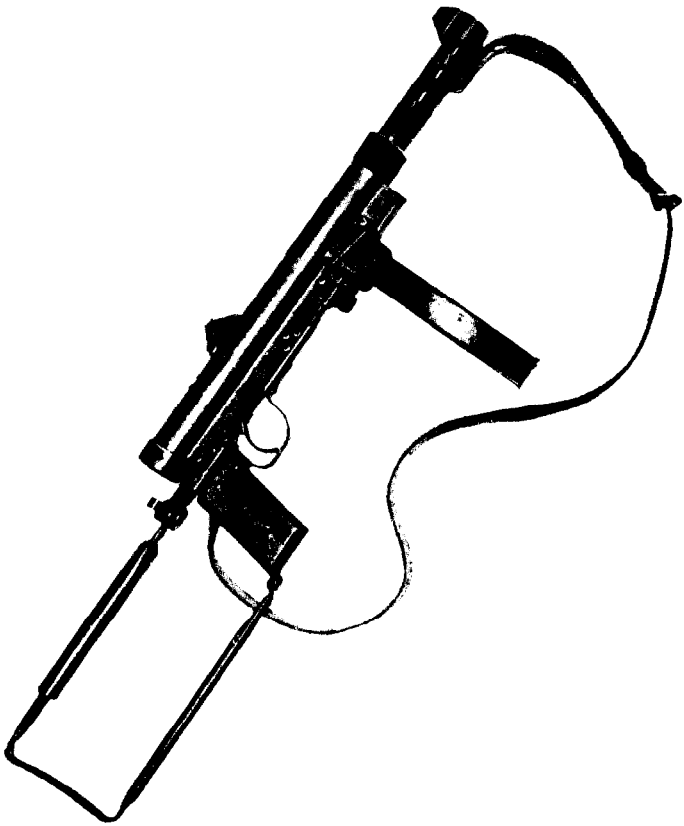
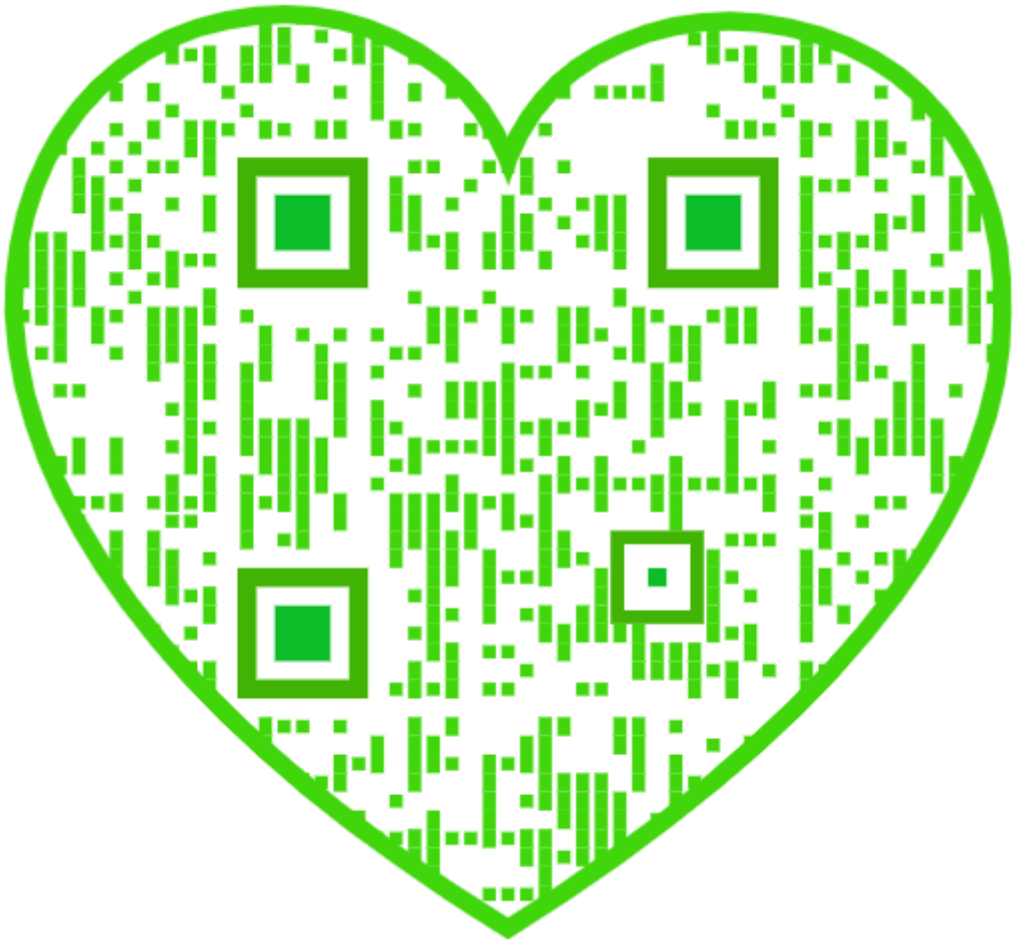
# FÖRSVARETS FABRIKSVERK



# SUBMACHINE GUN

*Carl-Gustaf*



# SUBMACHINE GUN

## *Carl-Gustaf*

# FÖRSVARETS FABRIKSVERK

SWEDEN

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Fig 1. The gun, right side.

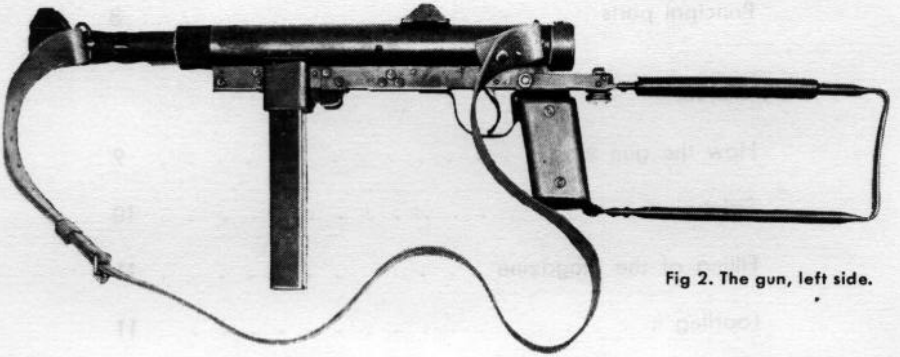


Fig 2. The gun, left side.

Fig 3. The gun, right side. The butt stock folded.

# SHORT DESCRIPTION

## *of submachine gun Carl-Gustaf*

***Introduction.*** The submachine gun, Carl-Gustaf, is a small compact weapon of light weight and sound construction. It is magazine fed and operated on the blow back — heavy bolt system. It can be fired in any position.

***General features.***

| | |
|---|---|
| Caliber: | 9 mm Parabellum |
| Magazine: | Exchangeable magazine of box type, capacity 36 cartridges, filled by hand |
| Ballistics: | Weight of bullet about 7,5 g<br>Muzzle velocity about 400 m/sec.<br>Muzzle energy about 60 kgm<br>Impact energy at 300 m about 28 kgm |
| Range: | Maximum range about 1500 m<br>Practicable range about 300 m at semi-automatic fire and about 200 m at automatic fire |
| Rate of fire: | About 10 rounds per sec. |
| Weights: | The gun except magazine 3500 g<br>The magazine empty 230 g<br>The magazine loaded with 36 cartridges 650 g |
| Dimensions: | Length with butt stock extended 808 mm<br>Length with butt stock folded 550 mm |
| Accessories: | Sling<br>Magazine bag<br>Wiper, 2 parts, and brush<br>Vaseline box<br>Front sight key |

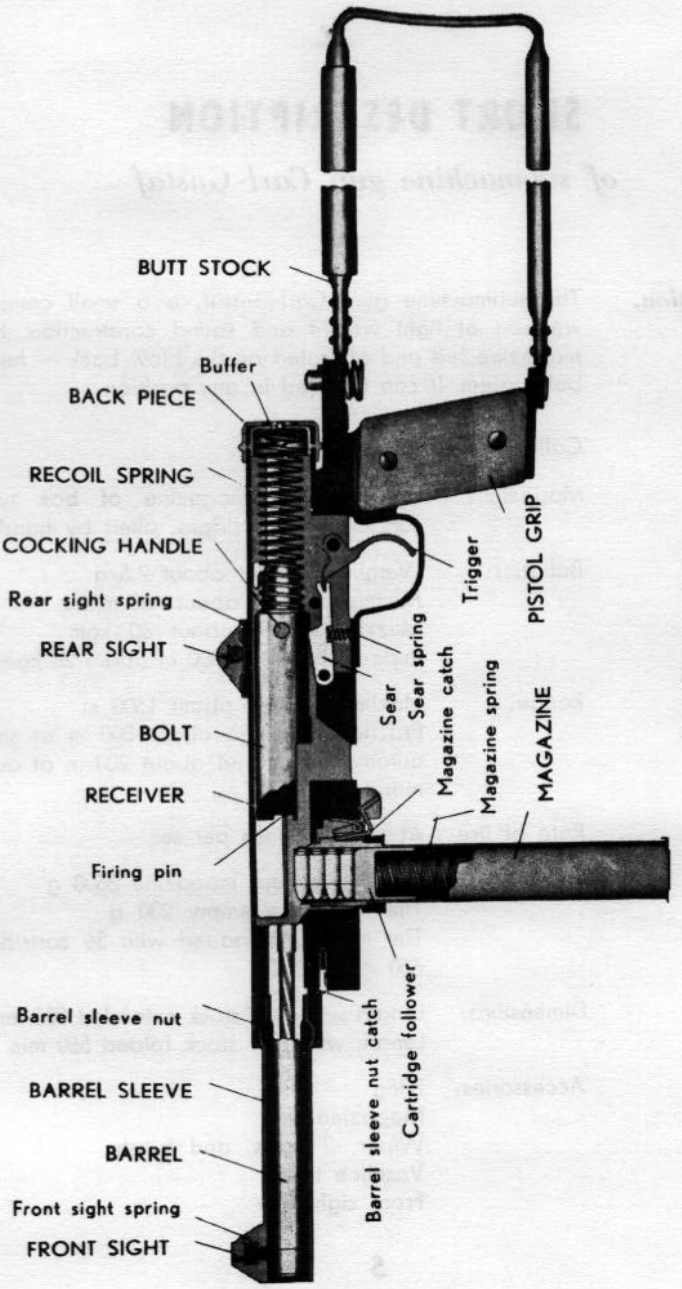



Fig 4. The gun, section.

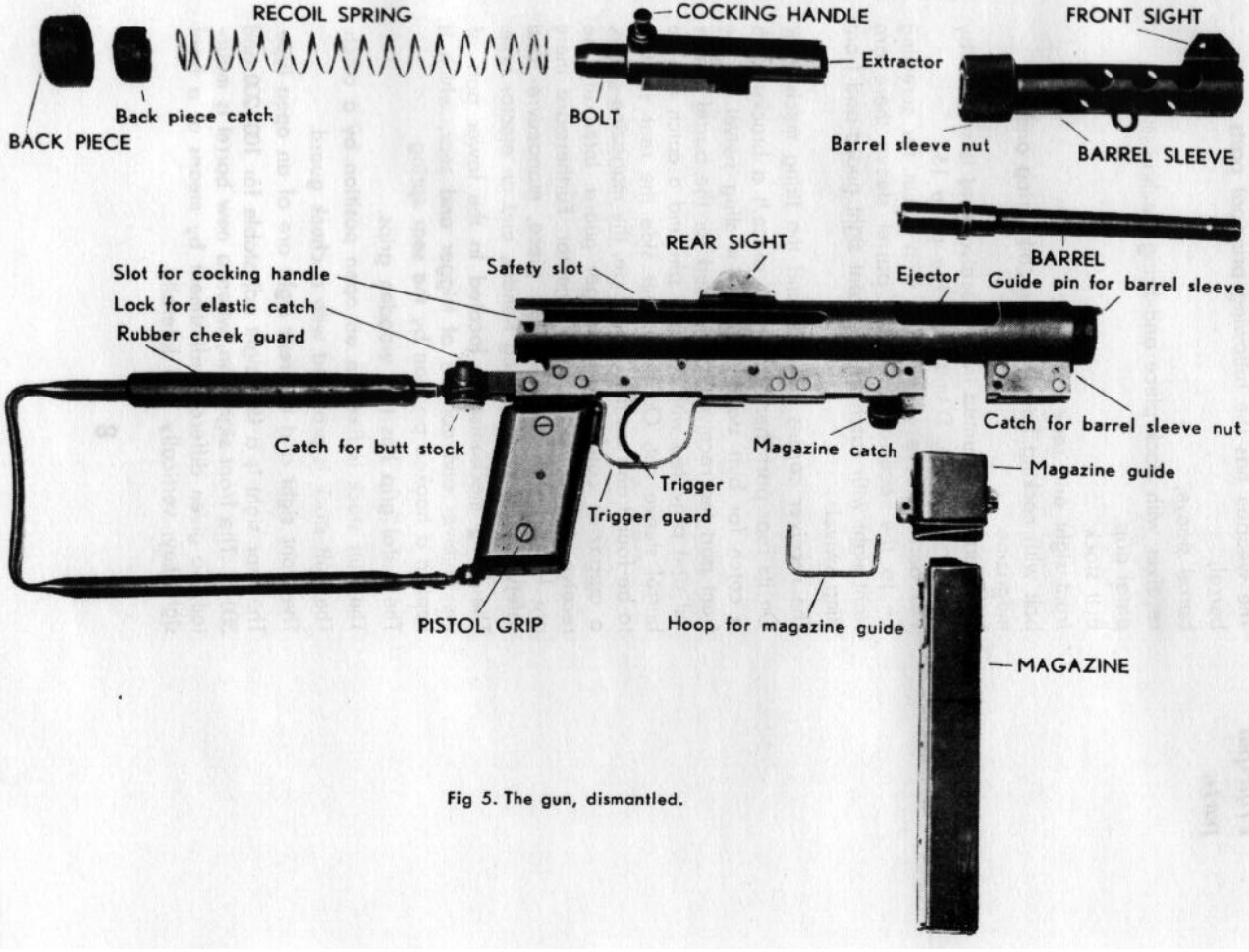



Fig 5. The gun, dismantled.

***Principal parts.***

The weapon has the following principal parts:
barrel,
barrel sleeve,
receiver with back piece and firing mechanism,
pistol grip,
butt stock,
front sight and rear sight,
bolt with cocking handle and recoil spring and magazine.

The **barrel** is mounted in the receiver and is secured by the barrel sleeve. Dismantling see page 15.

The **barrel sleeve** is provided with a nut for screwing on to the receiver.[1]) On the barrel sleeve there are front sight with catch spring, front sight guard and front sling swivel.

The **receiver** carries the bolt and the firing mechanism. On its rear part there are back piece,[1]) a bracket with a catch for butt stock and a rear sling swivel. In the front part the receiver is threaded for the barrel sleeve nut and provided with a guide pin and a catch for the barrel sleeve nut. On the upper side the rear sight is to be found and on the under side, the magazine guide, a magazine catch and a trigger guard. Internally the receiver is provided with an ejector. Furthermore there are locking slots for the back piece, manoeuvre- and safety slots for the cocking handle, and an ejector hole.

The firing mechanism is located in the lower part of the receiver and consists of trigger and sear, which is kept in a hooked position by the sear spring.

The **pistol grip** has two wooden grips.

The **butt stock** is fixed in an open position by a catch. The butt stock is provided with a cheek guard.

The **front sight** and the **rear sight** are of an open type. The rear sight is a flap sight adjustable for 100, 200 and 300 m. The front sight can, when a new barrel is mounted, be given different adjustment by means of a front sight key, vertically and laterally.

The **bolt**[1]) has an action face with an integral firing pin in the front part, feed rib and slots for extractor and ejector. On the underside at the back there are a cocking bent and a transverse hole, in which the cocking handle is mounted. The rear part is shaped as a support for the recoil spring. The extractor is movable against a spring being held by a plate. The bolt can be locked in the front position by pressing the cocking handle into a hole on the left side of the receiver.
The **magazine** is a rod magazine for 36 cartridges. The magazine is provided with holes so that the number of the cartridges can be judged approximately.
[1]) Dismantling see page 15.

# HANDLING

***How the gun works.***

The action of the gun is based on the blow back—heavy bolt system.

The cocking handle is pulled back to the cocked position at which the recoil spring is compressed, and then a loaded magazine is inserted in the magazine guide until it locks.

When the trigger is pressed, the heavy bolt is released and is driven forward by the recoil spring. The feed rib on the bolt strips the top cartridge from the magazine and drives it into the firing chamber. The extractor, which is attached to the bolt, snaps into the cannelure in the cartridge case and the firing pin strikes the cartridge primer exploding the powder.

The momentum of the heavy bolt and the spring keeps the bolt in forward position, until the bullet has left the barrel and the pressure in the barrel has dropped to safe limits.

The remaining pressure drives the empty cartridge case and moving parts to the rear. The case strikes against

the ejector and is ejected from the gun. The magazine spring pushes the next cartridge in position for feeding.

*Safety.*

The gun is made safe with the bolt in the rear position. On certain occasions the bolt can be locked in the rear position in accordance with the following:

(a) **Safety with the bolt in the rear position:**
By making safe with the bolt in the rear position the cocking handle is raised into the special safety slot where it is held by the recoil spring. (Fig. 6 and 7).

(b) **Looking of the bolt in forward position:**
The bolt is locked in the forward position by pressing the cocking handle into the hole in the receiver.

**Fig 6. The gun is made safe. Notice that the cocking handle is in the safety slot.**

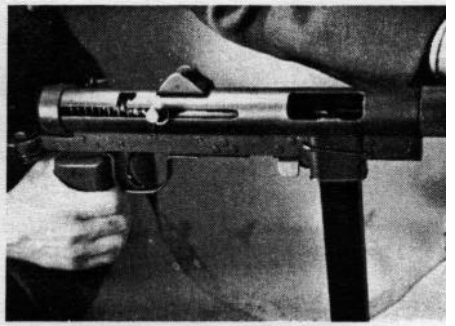


**Fig 7. The gun is released ready for firing.**

*Safety precautions.*

1. If a loaded magazine is inserted, the bolt may **not** be brought from the rear to the forward position for locking until the magazine has been removed.
2. Locking with the bolt in the forward position ought to be used **only** when there is a risk that the chamber and the magazine guide can be soiled through the ejector opening (during movements in trenches, in snow- or sandstorms, creeping and crawling etc.).
3. On guard-duty in peacetime the bolt ought to be in the rear safety position.

***Filling of the magazine.***

Filling of the magazine is carried out without magazine filler in the following manner.

Fig 8.

The cartridge is placed between the lips of the magazine (Fig. 8) and is pressed down to the held position. The procedure is repeated until the magazine is filled with 36 cartridges. The filling is made easier if the magazine, at the same time as the cartridge is pressed down with the thumb, with the bottom first is tapped lightly against any suitable object (which does not damage the magazine).

***Loading.***

Loading can be done with the bolt in the rear safety position or with the bolt in the forward locked position.

**Loading with the bolt in the rear safety position.**

1. Pull back the bolt with the right hand and make safe (Fig. 6).
2. Remove the empty magazine.
3. Insert a loaded magazine in the magazine guide.
4. Release safety (Fig. 7).

The gun is now ready for firing. The change of the magazine during combat is made as mentioned but without safety in accordance with No. 1.

**Loading with the bolt in the forward locked position.**

1. Lock the bolt in the forward position (by pressing in the cocking handle).
2. Remove the empty magazine.

3. Insert a loaded magazine in the magazine guide. Somewhat greater force is to be used than when loading with bolt in rear position.

The gun is now loaded with the bolt in the forward and locked position. Before firing the bolt must be unlocked, i.e. the cocking handle is pulled outwards and the bolt is brought back to cocked position.

NOTE. The bolt must always be locked in the forward position, otherwise accidental shots may be fired, for instance in the following way (Fig. 9).

1. The gunner has inserted the magazine with the bolt in forward position. The bolt is not locked.
2. The gun is knocked against the ground. The bolt is moved rearwards from its position but has not been hooked on the sear,
3. but is brought forward again by the recoil spring.
4. Accidental shots.

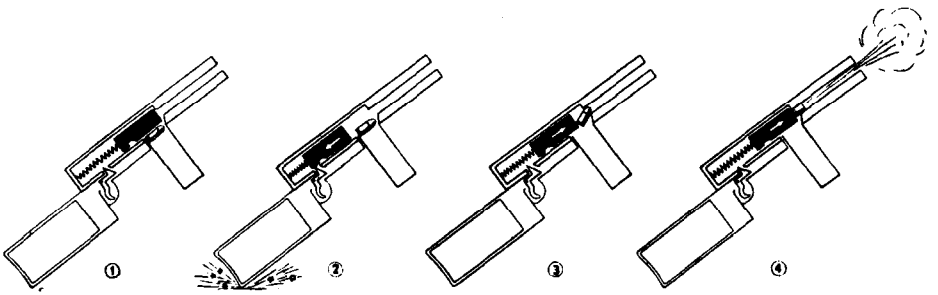



Fig 9.

***Making the gun empty.***

1. Pull back the bolt and make safe (Fig. 6).
2. Remove the magazine.
3. Release safety.
4. Fire (pull trigger).
   (When needed the bolt is locked in forward position.)

Fig 10. Lying position for firing.

***Semiautomatic and automatic fire.***

There is no fire control lever.

To fire single shots, the trigger is quickly released after firing, at which the bolt is cocked in its rear position. If the movement is performed too slowly, 2 or more shots will be discharged.

At automatic firing the trigger is held back so long as firing is desired. Various positions for firing are shown in Fig. 10—13.

Fig 11. The gun taken directly from position in fig 17.

Fig 12. The gun taken directly from position in fig 16.

Fig 13. The gun taken directly from position in fig. 14.

Other positions for firing are also possible. Observe that the gun, in an emergency, similar to those in Fig. 11 and 13, can be fired with one hand.

***Manner of carrying.***

On the march the gun is carried on the back by means of a sling (Fig. 14), over the shoulder (Fig. 15) or also advantageously, thanks to the swinging butt stock, on the breast (Fig. 16). When combat is expected the gun can be carried either on the breast or better at the side with the sling over the shoulder (Fig. 17).

Fig 14.

Fig 15.

Fig 16.

Fig 17.

Fig 18. Removing the back piece.

***Dismantling and assembling.*** The following parts (Fig. 5) can be dismantled: Back piece, recoil spring, bolt, extractor, magazine guide, barrel sleeve and barrel.

The magazine can be dismantled.

NOTE. Ascertain that the gun is empty and the bolt in its forward position. Grasp back piece with fore and middle finger of right hand and press in the catch of the back piece with thumb (through hole of the back piece). Turn back piece a little counter-clockwise. Back piece comes loose and can be removed (Fig. 18).

Remove recoil spring.

Remove bolt.

Strip extractor and extractor spring from bolt by pressing in extractor spring plate and sliding it forward in its slot.

Remove barrel sleeve by unscrewing barrel sleeve nut. For this the barrel sleeve catch must be pressed in by means of some hard object, for instance with the front sight key.

Remove barrel sleeve and barrel.

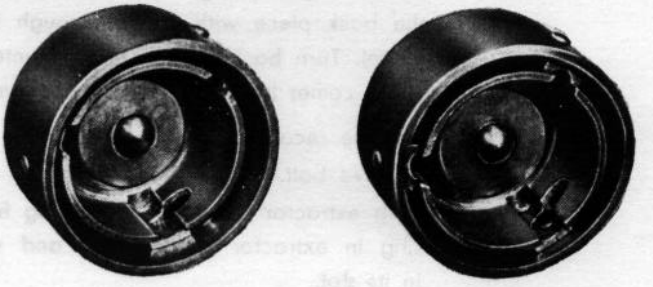
The magazine is dismantled by removing the magazine bottom, after which the magazine spring and cartridge follower can be dismantled.

More detailed dismantling should be performed by armourers only.

Assembling is done in reversed order.

NOTES.

If the catch of the back piece should have fallen apart, ensure before mounting the back piece, that the slots of the catch engage with the pins of back piece (Fig. 19).



Wrong Right

**Fig 19. Position of the back piece catch before mounting of the back piece.**

***Folding of the butt stock.***

In the folded position, the butt stock is secured by means of an elastic catch.

To extend the butt stock, seize the shoulder support with the right hand and jerk the butt stock to the right and backwards. When the butt stock is swung entirely back the elastic catch is locked, thus preventing the butt stock from being folded unintentionally during firing.

To fold the butt stock, seize the upper shank with the right hand and press the knob of the catch lock to the left (Fig. 20).

At the same time jerk the butt stock to the right and forwards.

At the beginning of the movement the back part of the butt stock can be conveniently tapped against the right hip.

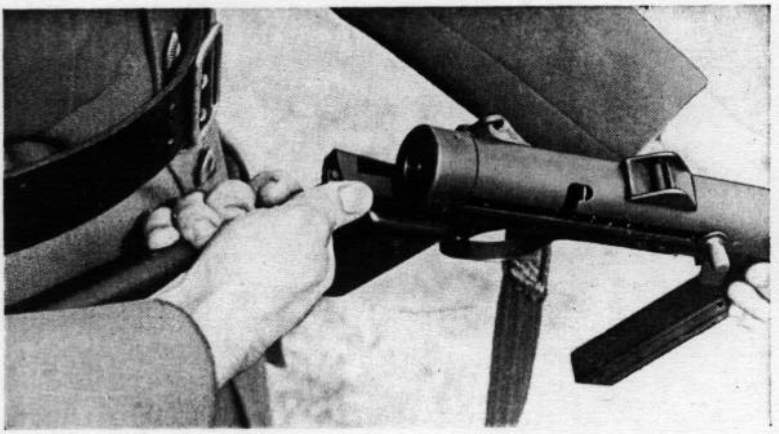


**Fig 20. Seizing to fold the butt stock.**

***Cleaning.***

The gun is dismantled as per page No 15. All dirt is removed after which the parts are oiled in the normal manner.